

## **Claims**

1. A foldable box having a flap locking system, comprising:

a first flap having an edge with a generally trapezoidal shaped tab cut therein, wherein said generally trapezoidal shaped tab is defined by two inwardly projecting grooves; and

a second flap that locks with the first flap, wherein the second flap includes an edge with a second generally trapezoidal shaped tab cut therein, and wherein said second generally trapezoidal shaped tab is defined by two outwardly projecting grooves.

2. The foldable box design of claim 1, wherein the second flap includes diagonal folds that project from the two outwardly projecting grooves to opposed edges of the second flap.

3. The foldable box design of claim 1, wherein the flaps reside on an outside portion of the bottom of the box when assembled.

4. A one-piece, collapsible container, comprising:

a plurality of side wall panels foldably joined to each other;

a plurality of flaps, each flap being foldably joined to an edge of a side wall panel;

and

an interlocking mechanism residing on a first and second opposing flaps, wherein:

the first opposing flap includes an edge with a first tab cut therein, wherein

the first tab is defined by two inwardly projecting grooves; and

the second opposing flap locks with the first opposing flap, and includes

an edge with a second tab cut therein, wherein the second tab is defined by two

outwardly projecting grooves.

5. The container of claim 4, wherein the second opposing flap includes folds to facilitate interlocking between the first and second opposing flaps.

6. The container of claim 4, wherein the flaps containing the interlocking mechanism reside on an outside portion of a bottom of the box when assembled.

7. The container of claim 4, wherein the assembled box is octagonal in shape, and the side wall panels comprise four opposing pairs of foldably joined panels.

8. The container of claim 4, further comprising a third and fourth opposing flaps, said third and fourth opposing flaps being shaped to permit their partial overlap and formation of a substantially flat surface.

9. The container of claim 8, wherein the third and fourth opposing flap is each substantially “L-shaped.”

10. The container of claim 1, wherein the first and second tabs are trapezoidal shaped.

11. An interlocking mechanism residing on a first and second opposing member,  
wherein:

the first member includes an edge with a first trapezoidal shaped tab cut therein,  
wherein the first trapezoidal shaped tab is defined by two inwardly projecting grooves;  
and

the second member locks with the first member and includes an edge with a  
second trapezoidal shaped tab cut therein, wherein the second trapezoidal shaped tab is  
defined by two outwardly projecting grooves.

12. The interlocking mechanism of claim 11, wherein the first member further includes a  
pair of receiving tabs that are cut away from the first trapezoidal shaped tab.

13. The interlocking mechanism of claim 12, wherein the second member further  
includes a pair of locking tabs that are cut toward the second trapezoidal shaped tab.